

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

DRAFT CLEANUP AND ABATEMENT ORDER NO. _____

FOR
FORWARD INC. AND ALLIED WASTE INDUSTRIES
FORWARD LANDFILL, A CLASS II FACILITY
SAN JOAQUIN COUNTY

This Order is issued to the Forward Inc. and Allied Waste Industries (hereafter Discharger) based on provisions of California Water Code Section 13304 and 13267, which authorize the Executive Officer of the California Regional Water Quality Control Board, Central Valley Region (hereafter Regional Water Board) to issue a Cleanup and Abatement Order (Order).

The Executive Officer of the Regional Water Board finds, with respect to the Discharger's acts, or failure to act, the following:

1. Forward Inc., a subsidiary of Allied Waste Industries, owns and operates the Forward Landfill near Stockton. The City of Stockton owned and operated the Austin Road Landfill, located just north of Forward Landfill, from 1954 until 2000. In September 2000, Allied Waste Industries purchased the Austin Road Landfill from the City of Stockton. Allied combined the two landfill operations into a single facility under the name of Forward Landfill, which is owned operated by its subsidiary, Forward Inc. As a result of this consolidation, the Austin Road Landfill became the north unit of the Forward Landfill. However, in this Order, this waste management unit will continue to be referred to as the Austin Road Landfill.
2. Forward Landfill, including the former Austin Road Landfill, is now regulated under Waste Discharge Requirements (WDRs) Order Nos. R5-2003-0049 (land application) and R5-2003-0080 (landfill operation). The combined landfill facilities cover approximately 567 acres, including both existing and proposed waste management units. The landfill is located about seven miles southeast of Stockton in Section 3, T1S, R7E, MDB&M. The facility is comprised of Assessor's Parcel Numbers (APN) 181-150-07, 181-150-08, 181-150-09, 181- 150-10, 201-060-01, 201-060-02, 201-060-03, and 201-060-05.
3. Land uses adjacent to the combined landfill include agricultural lands to the east, west, and south. The Northern California Youth Authority, a youth criminal detention facility, is located approximately 1,900 feet north from the Austin Road Landfill. The Stockton Municipal Airport is approximately one mile west of the Austin Road Landfill. One mile northeast of the facility is the Burlington Northern and Santa Fe Railroad Intermodal facility. There is a residence on Austin Road that is 500 feet

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from the entrance to Austin Road Landfill. There are also two residences on Lynch Road, approximately 0.5 miles southeast of the site.

4. The Austin Road Landfill was filled using the trench method. Trenches were excavated to an approximate depth of 20 feet below ground surface. There is no liner or leachate collection and removal system in the trenches to prevent the downward migration of landfill leachate or gas from the unit to the underlying groundwater.

SURFACE AND GROUND WATER CONDITIONS

5. The landfill is on the floor of the northern San Joaquin Valley. Surface drainage is toward the west to Littlejohns Creek in the Duck-Littlejohns Hydrologic Area (31.40) of the San Joaquin River Basin.
6. The Water Quality Control Plan, Fourth Edition, for the Sacramento River Basin and the San Joaquin River Basin (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin. The designated beneficial uses of Littlejohns Creek, as specified in the Basin Plan, are agricultural supply, industrial service and process supply water, contact and non-contact water, recreation, warm fresh water habitat, preservation of rare, threatened and endangered species, and groundwater recharge.
7. The direction of groundwater flow is to the north-northeast. The measured hydraulic conductivity of the uppermost aquifer underlying the landfill ranges between 2×10^{-2} and 2×10^{-3} cm/sec. The groundwater gradients, based on the Discharger's fourth quarter 2007 groundwater monitoring report measurements, range from 0.0010 to 0.0020 ft/ft.
8. The first encountered groundwater is about 60 to 80 feet below the native ground surface. Groundwater elevations range from -20 feet mean sea level (MSL) to -30 feet MSL. The groundwater is unconfined. The depth to groundwater fluctuates seasonally by as much as 10 feet.
9. There are 35 domestic, industrial, or agricultural groundwater supply wells within one mile of the site.
10. The designated beneficial uses of the groundwater, as specified in the Basin Plan, are domestic and municipal supply, agricultural supply, industrial service supply, and industrial process supply.

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GROUNDWATER IMPACTS FROM THE AUSTIN ROAD LANDFILL

11. Significant volatile organic compound (VOC) groundwater impacts including, but not limited to, 1-1, dichloroethane, cis-1,2 dichloroethylene, tetrachloroethylene, and trichloroethylene are associated with waste discharges to the Austin Road Landfill. Impacts were initially detected in 1989. By 1991, evaluation monitoring determined that chlorinated hydrocarbons impacts extended as far as 1,000 feet down-gradient from the Austin Road Landfill. A corrective action was approved in 1991, but by 1998 it was apparent that the initial corrective actions had failed to remediate the groundwater impacts because detections of 1-1, dichloroethane, cis-1,2 dichloroethylene, tetrachloroethylene, and trichloroethylene were still detected in downgradient monitoring wells.
12. The Discharger stated in its 2002 Joint Technical Document that “the VOC polluted groundwater extends approximately 4,000 feet northeast from the northern border of the existing Austin Road Landfill. The plume appears to have migrated to a lower depth at the leading edge of the plume. The primary contaminants of concern are Tetrachloroethylene and Trichloroethene, with concentrations levels up to 59 and 48 micrograms per liter, respectively. The highest VOC concentrations are present within a sand layer that extends beneath the site between approximately 80 to 104 feet below ground surface.”
13. There are no monitoring wells installed at the downgradient edge (vertically and laterally) of the plume.
14. In June 2002, the Regional Water Board adopted WDRs Order No. R5-2003-0049 and R5-2003-0080 to implement revised corrective actions to remediate groundwater impacts. The Discharger extracts groundwater from two wells adjacent to the northern boundary of the Austin Road Landfill, and then runs it through an air sparger prior to discharging the effluent to an infiltration area. From 1 October through 31 December 2007, the two wells extracted at an average rate of 209 gallons per minute or 301,000 gallons per day. Based on the continuing detections in the downgradient wells, the current extraction rate is insufficient to control the plume and remediate the release of waste from the landfill.
15. The Austin Road landfill corrective action monitoring system includes monitoring wells AMW 13 and AMW 14. These wells are approximately 1,600 feet directly downgradient of the two extraction wells EW-1 and EW-2. During the first Quarter 2008 sampling event the following VOCs were detected in these wells:

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| Volatile Organic Compound | Monitoring Well | |
|---------------------------|-----------------|------------------------|
| | AMW 13 | AMW 14 |
| 1-1, dichloroethane | 0.51 ug/l | 0.25 ^J |
| cis-1,2 dichloroethylene | 1.5 ug/l | 0.32 ^J |
| dichlorodifluoromethane | 1.7 ug/l | 1.0 ug/l |
| tetrachloroethylene | 25 ug/l | 18 ug/l |
| trichloroethylene | 7.1 ug/l | 1.3 ug/l |
| trichlorofluoromethane | 0.79 ug/l | 0.28 ug/l ^J |

J value: detected above the method detection limit, yet value is below the practical quantitation limit.

16. The Northern California Youth Authority facility is located due north and approximately 1,000 feet downgradient of the Austin Road Landfill monitoring wells AMW 13 and AMW 14. This facility uses three supply wells as their means for supplying drinking water to their facility. The facility wells are sampled on a monthly basis and have consistently shown that the tetrachloroethylene plume extends past the corrective action monitoring wells AMW 13 and AMW 14 as shown in the following table. Furthermore, the tetrachloroethylene in Well #2 has concentrations at times which exceeds the US EPA Primary MCL of 5 ug/l. Well #1, #2 and #3 all exceed the public health goal of 0.06 ug/l for tetrachloroethylene

Northern California Youth Authority Wells Tetrachloroethylene Concentrations (ug/l)

| | 11/ 07 | 12/07 | 01/08 | 02/08 | 03/08 | 04/08 | 05/08 | 6/08 |
|----------------|--------|-------|-------|-------|-------|-------|-------|------|
| Well #1 | 3.2 | 3.8 | 3.8 | 4.0 | 4.2 | 3.9 | 3.8 | 3.3 |
| Well #2 | 4.4 | 4.8 | 5.4 | 4.0 | 5.7 | 5.4 | 5.6 | 6.7 |
| Well #4 | 1.3 | 1.5 | 1.4 | 1.4 | 1.5 | 1.5 | 1.6 | ND |

- U.S. EPA Primary MCL = 5 ug/l
- Public Health Goal = 0.06 ug/l

REGULATORY CONSIDERATIONS

17. To summarize, the Austin Road Landfill VOC plume has polluted downgradient drinking water supply wells at the Northern California Youth Authority facility. A groundwater extraction and treatment system and a landfill gas extraction system have been installed and are operating at the site. The June 2008 groundwater monitoring data from the Northern California Youth Authority supply wells and the landfill's groundwater monitoring wells indicates that pollutants in groundwater are still present. Therefore, the groundwater extraction system is not containing the entire volatile organic compound (VOC) plume.

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18. Groundwater quality data and flow direction measurements provided by the Discharger indicate that the groundwater treatment system is undersized and unable to prohibit the migration of the VOC plume.
19. Prohibition A (4) of WDRs Order No. R5-2003-0049 states: "The discharge shall not cause the release of pollutants or waste constituents in a manner which could cause a condition of nuisance, degradation, contamination, or pollution of groundwater to occur". Consequently, the Discharger is in violation of their WDRs.
20. This Order requires the Discharger to: (a) evaluate the vertical and lateral extent of groundwater impacts; (b) upgrade the corrective action system such that it prevents the constituents of concern associated with the release of waste from the landfill from passing the point of compliance of the waste management unit; (c) restore the water quality of the polluted aquifer; and (d) supply drinking water to any facility and or residence with a water supply that has been affected by the release of waste from the landfill.
21. The Discharger's data indicates that the release from the Austin Road Landfill has impacted the beneficial uses of the monitored aquifer downgradient of the landfill property. The data shows that all three supply wells at the Northern California Youth Authority have concentrations of tetrachloroethylene that exceed the public health goal of 0.06 ug/l. The highest concentrations of tetrachloroethylene detected in supply well #4 exceed the US EPA Primary MCL of 5 ug/l.
22. The wastes detected at the site are solvents used in the dry cleaning process and breakdown products that are not naturally occurring, and some are known human carcinogens. Pollution of groundwater with PCE, TCE and cis-1,2 DCE impairs the beneficial uses of the groundwater.
23. The constituents listed in Finding 15 are wastes, as defined in the Water Code, Section 13050.
24. The Discharger has caused or permitted waste to be discharged or deposited where it has discharged to waters of the state and has created, and continues to threaten to create, a condition of pollution or nuisance
25. The State Water Resources Control Board (hereafter State Water Board) has adopted Resolution No. 92-49, the *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under Water Code Section 13304*. This Policy sets forth the policies and procedures to be used during an investigation or cleanup of a polluted site and requires that cleanup levels be consistent with State Water Board Resolution No. 68-16, the *Statement of Policy With Respect to Maintaining High Quality of Waters in California*. Resolution No. 92-49 and the Basin Plan establish the cleanup levels to be achieved. Resolution No. 92-49 requires the waste to be cleaned up to background, or if that is not reasonable, to an

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alternative level that is the most stringent level that is economically and technologically feasible in accordance with Title 23, California Code of Regulations (CCR) Section 2550.4. Any alternative cleanup level to background must (1) be consistent with the maximum benefit to the people of the state; (2) not unreasonably affect present and anticipated beneficial use of such water; and (3) not result in water quality less than that prescribed in the Basin Plan and applicable Water Quality Control Plans and Policies of the State Board.

26. Chapter IV of the Basin Plan contains the *Policy for Investigation and Cleanup of Contaminated Sites*, which describes the Regional Water Board's policy for managing contaminated sites. This policy is based on CWC Sections 13000 and 13304, Title 27, CCR, Division 2, Subdivision 1 regulations, and State Board Resolution Nos. 68-16 and 92-49. The policy addresses site investigation, source removal or containment, information required to be submitted for consideration in establishing cleanup levels, and the bases for establishment of soil and groundwater cleanup levels.

27. The State Water Board's *Water Quality Enforcement Policy* states in part: "At a minimum, cleanup levels must be sufficiently stringent to fully support beneficial uses, unless the Regional Water Board allows a containment zone. In the interim, and if restoration of background water quality cannot be achieved, the Order should require the discharger(s) to abate the effects of the discharge. Abatement activities may include the provision of alternate water supplies." (Enforcement Policy, p. 19)

28. Applicable sections from Title 27, CCR are as follows:

- Section 20425(i) states: "*RWQCB-Initiated EMP Changes — Any time the RWQCB determines that the evaluation monitoring program does not satisfy the requirements of this section, the RWQCB shall send written notification of such determination to the discharger by certified mail, return receipt requested. The discharger shall, within 90 days of such notification by the RWQCB, submit an amended report of waste discharge to make appropriate changes to the program.*"
- Section 20430(b) states: "*The discharger shall take corrective action to achieve the following goals: to remediate releases from the Unit; to ensure that the discharger achieves compliance with the Water Standard adopted under section 20390 for that Unit.*"
- Section 20430(c) states: "*The discharger shall implement corrective action measures that ensure that COCs achieve their respective concentration limits at all Monitoring Points and throughout the zone affected by the release, including any portions thereof that extend beyond the facility boundary, by removing the waste constituents or treating them in place.*"

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- Section 20430(j) states: *“RWQCB-Initiated CAP Changes — Any time the RWQCB determines that the corrective action program does not satisfy the requirements of this section, the discharger shall, within 90 days of receiving written notification of such determination by the RWQCB, submit an amended report of waste discharge to make appropriate changes to the program.”*

29. CWC Section 13304(c)(1) provides that: *“Any person who has discharged or discharges waste into waters of this state in violation of any waste discharge requirements or other order or prohibition issued by a Regional Water Board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the Regional Water Board clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including but not limited to, overseeing cleanup and abatement efforts. A cleanup and abatement order issued by the state board or a Regional Water Board may require the provision of, or payment for, uninterrupted replacement water service, which may include wellhead treatment, to each affected public water supplier or private well owner. [emphasis added] Upon failure of any person to comply with the cleanup or abatement order, the Attorney General, at the request of the board, shall petition the superior court for that county for the issuance of an injunction requiring the person to comply with the order. In the suit, the court shall have jurisdiction to grant a prohibitory or mandatory injunction, either preliminary or permanent, as the facts may warrant.”*

30. CWC Section 13267(b) provides that: *“In conducting an investigation specified in subdivision (a), the Regional Water Board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste outside of its region that could affect the quality of waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Regional Water Board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports”.*

31. The technical reports required by this Order are necessary to assure compliance with this Order and the WDRs, and to protect the waters of the state. Existing data and information about the site indicates that waste has been discharged or may continue to be discharged at the property, which is currently owned and operated by the Discharger named in this Order.

32. The issuance of this Order is an enforcement action taken by a regulatory agency and is exempt from the provisions of the California Environmental Quality Act (Public

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Resources Code, Section 21000, et seq.), pursuant to Title 14 CCR Section 15321(a)(2). The implementation of this Order is also an action to assure the restoration of the environment and is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.), in accordance with Title 14 CCR, Sections 15308 and 15330.

33. Any person affected by this action of the Regional Water Board may petition the State Water Resources Control Board to review the action in accordance with California Code of Regulations, Title 23, section 2050 through 2068. The petition must be received by the State Water Board within 30 days of the date of the issuance of this Order. Copies of the law and regulations applicable to filing petitions are available at <http://www.waterboards.ca.gov/wqpetitions/index.html> and will be provided upon request.

IT IS HEREBY ORDERED THAT, pursuant to Sections 13267 and 13304 of the California Water Code, Forward Inc. and Allied Waste Industries, their agents, successors, and assigns, shall investigate the discharges of waste, clean up the waste, and abate the effects of the waste, forthwith, resulting from activities at the Forward Landfill in conformance with State Board Resolution No. 92-49 *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304*, with Section 20380 et seq, Title 27, CCR and with the Regional Water Board's *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins* (in particular the Policies and Plans listed within the Control Action Considerations portion of Chapter IV). "Forthwith" means as soon as is reasonably possible. Compliance with this requirement shall include, but not be limited to, completing the tasks listed below.

Each report submitted to the Regional Water Board shall be included in the Discharger's Operating Record. Furthermore, any person signing a document submitted under this Order shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my knowledge and on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Public Water Supply Concerns

1. No later than **30 October 2008**, the Discharger shall sample all downgradient domestic and municipal drinking water wells within 4000 feet of the Austin Road Landfill for the constituents of concern listed in Monitoring and Reporting Program No. R5-2003-0080 (also listed in Finding 15).

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2. Pursuant to Section 13304 of the CWC, no later than **30 October 2008**, the Discharger shall provide an alternative water supply without any cost to the Northern California Youth Authority and to the residents in the area. If new data indicates that the plume has expanded past the 4000 feet referenced in the Discharger's 2002 JTD, then any well owner within the newly defined extent of the plume shall also be supplied with an alternative water supply.
3. Within **45 days** of the sample collection required by Item No. 1, the Discharger shall submit a report of sampling results to Regional Water Board, the well owners, and to the San Joaquin County Environmental Health Department. This report shall include a description of the sampling activities, an evaluation of each well's water chemistry, and documentation that the owners received the data for their well with an explanation of the results.

Evaluation Monitoring Program

4. No later than **30 October 2008**, the Discharger shall submit an evaluation monitoring work plan to collect and analyze all data necessary to assess the nature and extent of the release from the Austin Road Landfill. Consistent with Title 27, CCR Section 20425, this assessment shall include a determination of the spatial distribution and concentration of each constituent of concern throughout all zones (both vertically and horizontally) affected by the release. The Discharger shall comply with the additional notification and monitoring system requirements incorporated by reference into State Board Resolution No. 92-49, regarding notification and monitoring relative to offsite or potential off-site migration of waste constituents.
5. No later than **30 days** after concurrence with the evaluation monitoring investigation work plan, the Discharger shall commence the investigation.
6. **Seven days** prior to initiating the investigation, the Discharger shall notify the Regional Water Board in writing regarding the date on which the fieldwork will begin.
7. Within **90 days** of initiating the evaluation monitoring investigation, the Discharger shall submit a revised engineering feasibility study in the form of a Report of Waste Discharge in compliance with Section 20425(d) of Title 27, CCR that includes:
 - a. A well installation completion report for any newly installed monitoring points.
 - b. A complete evaluation of the vertical and lateral extent of all detected constituents of concern listed in Table 2 of monitoring and reporting program Order No. R5-2003-0080 such that each constituent of concern

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has been characterized to levels below its applicable water quality protection standard.

- c. A schedule for implementation of the selected remedy from the engineering feasibility study. This schedule shall include milestones as well as the final completion date for capturing the entire groundwater plume and a date when groundwater pollution remediation will reach applicable water quality protection standard for all constituents of concern.
8. By **1 November 2008**, the Discharger shall submit a redesign of the corrective action and monitoring system that meets the following performance criteria:
- a. Capture all groundwater contaminates from the Austin Road Landfill at the point of compliance.
 - b. Continuous treatment system (24 hours a day, 365 days a year) operation until the groundwater plume is remediated to background.
 - c. Corrective action monitoring program that meets the requirements in Title 27, CCR Section 20430(d).
 - d. Prevent infiltration from Littlejohn's Creek from inundating the any waste in the Austin Road Landfill.

CORRECTIVE ACTION PROGRAM

9. By **1 November 2008**, the Discharger shall maintain a corrective action monitoring system, in compliance with Section 20415(b)(1)(D) of Title 27, CCR and approved by the Executive Officer, to evaluate the continuous operational performance of the entire corrective action remediation systems.
10. By **1 January 2009**, the Discharger shall submit an amended report of waste discharge for updating the conditions for effluent discharge of treated groundwater. The amended report of waste discharge shall evaluate and describe how wastewater generated by the expanded groundwater treatment system shall be disposed of. The report shall evaluate different disposal options and shall provide the selected alternative. Flows shall be based on that needed to contain the entire groundwater plume.
11. By **15 February 2009**, the Discharger shall submit a report demonstrating that it has a complete and operational corrective action remediation and monitoring system capable of preventing all contaminants from passing the point of compliance, as well as removing VOCs, metals and other constituents of concern from the wells affected by the release from the facility. The report shall discuss

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how the system shall be operated continuously until all constituents of concern have achieved their water quality protection standard at the point of compliance.

12. In addition to the above, the Discharger shall comply with the following:

- a. Upon startup of any remediation system(s), the Discharger shall operate the remediation system(s) continuously, except for periodic and required maintenance or unpreventable equipment failure.
- b. The Discharger shall notify the Regional Water Board within 24 hours of any unscheduled shutdown of the remediation system(s) that lasts longer than 48 hours. This notification shall include the cause of the shutdown and the corrective action taken (or proposed to be taken) to restart the system. Any interruptions in the operation of the remediation system(s), other than for maintenance, emergencies, or equipment failure, without prior approval from Regional Water Board staff or without notifying the Regional Water Board within the specified time is a violation of this Order.
- c. The Discharger shall optimize remedial systems as needed to improve system efficiency, operating time, and/or pollutant removal rates, and report on the effectiveness of the optimization in the Annual Report.
- d. The Discharger shall notify Regional Water Board staff at least three working days prior to any onsite work, testing, or sampling that pertains to environmental remediation and investigation and is not routine monitoring, maintenance, or inspection.
- e. The Discharger shall obtain all local and state permits and access agreements necessary to fulfill the requirements of this Order.
- f. The Discharger shall continue any remediation or monitoring activities until such time as the Executive Officer determines that sufficient cleanup has been accomplished to fully comply with this Order and this Order has been rescinded.

In accordance with California Business and Professions Code Sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall contain the professional's signature and/or stamp of the seal.

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If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement or may issue a complaint for administrative civil liability.

Failure to comply with this Order may result in the assessment of an Administrative Civil Liability up to \$1,000 per day or up to \$10,000 per day of violation, depending on the violation, pursuant to the California Water Code, including Sections 13268, 13271, and 13350. The Regional Water Board reserves its right to take any enforcement actions authorized by law.

This Order is effective upon the date of signature.

PAMELA C. CREEDON, Executive Officer

Date

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